

DR EMBL: U50395; AAC53040.1; -;
 DR HSSP: D86070; BAI3004.1; -;
 DR InterPro: IPR002117; P53.
 DR Pfam: PF00870; P53; 1.
 DR PRINTS: PR00386; P53SUPPRESSR.
 DR PRODOM: PD002681; P53; 1.
 DR PROSITE: PS00348; P53; 1.
 KW Anti-oncogene; DNA-binding; Transcription regulation; Activator;
 KW Nuclear protein; Phosphorylation; Apoptosis.
 FT DOMAIN 1 45
 FT DVA BIND 102 292
 FT DOMAIN 325 356
 FT DOMAIN 368 387
 FT DOMAIN 311 333
 FT MOD_RES 392 392
 FT VARIANT 133 133
 FT VARIANT 135 135
 FT CONFLICT 103 103
 SO SEQUENCE 393 AA; 43378 MW; 2A7830E788311689 CRC64;

Query Match
 Best Local Similarity 77.5%; Score 55; DB 1; Length 393;
 Matches 10; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 QPFSIDYKMLLP 12
 DB 16 QETFSDLKMLLP 27
 22-33
 34

RESULT 6
 P53_HUMAN STANDARD; PRT; 393 AA.
 ID P53_HUMAN
 AC P04637; Q16848; Q9UBR2;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 01-MAR-2002 (Rel. 41, Last annotation update)
 DE Cellular tumor antigen p53 (Tumor suppressor p53) (Phosphoprotein
 DE P53) (Antigen NY-CO-13).
 GN TP53 OR P53.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-85230577; PubMed-4006916;
 RA Zakut-Houri R., Bienz-Tadmor B., Glivol D., Oren M.;
 RT "Human p53 cellular tumor antigen: cDNA sequence and expression in
 RT COS cells.";
 RL EMBO J. 4:1251-1255(1985).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-87064416; PubMed-2946935;
 RA Lamb P., Crawford L.;
 RT "Characterization of the human p53 gene.";
 RL Mol. Cell. Biol. 6:1379-1385(1986).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-85267676; PubMed-3894933;
 RA Harlow E., Williamson N.M., Ralston R., Helfman D.M., Adams T.E.;
 RT "Molecular cloning and in vitro expression of a cDNA clone for human
 RT cellular tumor antigen p53.";
 RL Mol. Cell. Biol. 5:1601-1610(1985).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-87089826; PubMed-3025664;
 RA Harris N., Brill E., Shohat O., Prokocimer M., Wolf D., Arai N.,
 RT "Molecular basis for heterogeneity of the human p53 protein.";
 RL Biol. 6:4650-4656(1986).

RP SEQUENCE FROM N.A.
 RX MEDLINE-89108008; PubMed-2905688;
 RA Buchman V.L., Chumakov P.M., Ninkina N.N., Samarina O.P.,
 RA Georgiev G.P.;
 RT "A variation in the structure of the protein-coding region of the
 RT human p53 gene.";
 RL Gene 70:245-252(1988).
 RN [6]
 RP SEQUENCE OF 101-393 FROM N.A.
 RX MEDLINE-85126934; PubMed-6396087;
 RA Matlashewski G., Lamb P., Pim D., Peacock J., Crawford L.,
 RA Benichou S.;
 RT "Isolation and characterization of a human p53 cDNA clone: expression
 RT of the human p53 gene.";
 RL EMBO J. 3:3257-3262(1984).
 RN [7]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-92007731; PubMed-1915267;
 RA Farrell P.J., Allan G., Shanahan F., Vousden K.H., Crook T.;
 RT "p53 is frequently mutated in Burkitt's lymphoma cell lines.";
 RL EMBO J. 10:2879-2887(1991).
 RN [8]
 RP SEQUENCE FROM N.A.
 RX Chumakov P.M., Almazov V.P., Jenkins J.R.;
 RT Submitted (JUN-1991) to the EMBL/Genbank/DBJ databases.
 RN [9]
 RP SEQUENCE FROM N.A.
 RX Rozenmuller E.H., Tilius M.G.J.;
 RT "p53 genomic sequence. Corrections and polymorphism.";
 RL Submitted (MAR-1997) to the EMBL/Genbank/DBJ databases.
 RN [10]
 RP SEQUENCE FROM N.A.
 RX Anderson C.W., Kieleczawa J., Allalunis-Turner J.;
 RT "Human p53 from the malignant glioma-derived cell lines M059J and
 RT M059K have a cancer-associated mutation in exon 8.";
 RL Submitted (MAR-1999) to the EMBL/Genbank/DBJ databases.
 RN [11]
 RP ALTERNATIVE SPLICING.
 RX MEDLINE-96197761; PubMed-8632903;
 RA Flaman J.-M., Maridel F., Estreicher A., Vannier A., Lmacher J.-M.,
 RT "The human tumour suppressor gene p53 is alternatively spliced in
 RT normal cells.";
 RL Oncogene 12:813-818(1996).
 RN [12]
 RP NUCLEAR LOCALIZATION SIGNAL.
 RX MEDLINE-90191730; PubMed-2156209;
 RA Addison C., Jenkins J.R., Sturzbecher H.-W.;
 RT "The p53 nuclear localisation signal is structurally linked to a
 RT p34cdc2 kinase motif.";
 RL Oncogene 5:423-426(1990).
 RN [13]
 RP MINIMAL REPRESSION DOMAIN.
 RX PubMed-11007800;
 RA Hong T.M., Chen J.-J., Peck K., Yang P.C., Wu C.W.;
 RT "p53 amino acids 339-346 represent the minimal p53 repression
 RT domain.";
 RL J. Biol. Chem. 276:1510-1515(2001).
 RN [14]
 RP PHOSPHORYLATION BY p60/CDC2 AND CYCLIN B/CDC2.
 RX MEDLINE-90280456; PubMed-2141171;
 RA Bischoff J.R., Friedman P.N., Marshak D.R., Prives C., Beach D.;
 RT "Human p53 is phosphorylated by p60-cdc2 and cyclin B-cdc2.";
 RL Proc. Natl. Acad. Sci. U.S.A. 87:4766-4770(1990).
 RN [15]
 RP DEPHOSPHORYLATION BY PP2A.
 RX MEDLINE-91172186; PubMed-1848668;
 RA Scheidtmann K.H., Mumby M.C., Rundell K., Walter G.;
 RT "Dephosphorylation of simian virus 40 large-t antigen and p53 protein
 RT by protein phosphatase 2A: inhibition by small-t antigen.";
 RL Mol. Cell. Biol. 11:1996-2003(1991).
 RN [16]
 RP O-GLYCOSYLATION.

SEQUENCE 391 AA: 43435 MW: 86BD58D0B726525 CRC64;

Query Match 77.5% Score 55; DB 1; Length 391;
Best Local Similarity 83.3%; Pred. No. 0.079;
Matches 10; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 OPTFSDYKLLP 12
Db 16 QETFSDLKLLP 27

RESULT 4
P53_CERAE STANDARD; PRT: 393 AA.

ID P53_CERAE
AC P13481;
DT 01-JAN-1990 (Rel. 13, Created)
DT 01-JAN-1990 (Rel. 13, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Cellular tumor antigen p53 (Tumor suppressor p53).
GN TP53.
OS Cercopithecus aethiops (Green monkey) (Griwet).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecinae; Cercopithecus.
NCBI_TaxID=9534;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=90045967; PubMed=2530498;
RA Rigaudy P., Eckhardt W.;
RT "Nucleotide sequence of a cDNA encoding the monkey cellular
RT phosphoprotein p53."
RL Nucleic Acids Res. 17:8375-8375(1989).

-1- FUNCTION: ACTS AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC TUMOR SUPPRESSION. ACTS IN CELL CYCLE REGULATION, IS A TRANS-
CC ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELL DIVISION BY
CC CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF THE
CC ACTIVATED GENES IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC BAX AND P53 ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC EXPRESSION.
CC -1- SUBUNIT: BINDS DNA AS AN HOMOTETRAMER (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Nuclear.
CC -1- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC IN MANY TYPES OF CANCER.
CC -1- SIMILARITY: BELONGS TO THE P53 FAMILY.

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EMBL: X16384; CAA34420.1; -
DR HSSP: P04637; 10LG.
DR InterPro: IPR002117; P53.
DR Pfam: PF00870; P53; 1.
DR PRINTS: PR00386; P53SUPPRESSR.
DR PRODOM: PD002681; P53; 1.
DR PROSITE: PS00348; P53; 1.
KW Anti-oncogene; DNA-binding; Transcription regulation; Activator;
KW Nuclear protein; Phosphorylation; Apoptosis.
FT DOMAIN 1 44 TRANSCRIPTION ACTIVATION (ACIDIC).
FT DNA_BIND 102 292 BY SIMILARITY.

FT DOMAIN 325 356 OLIGOMERIZATION.
FT DOMAIN 368 387 BASIC (REPRESSION OF DNA-BINDING).
FT DOMAIN 311 323 NUCLEAR LOCALIZATION SIGNAL (POTENTIAL).
FT MOD_RES 392 392 PHOSPHORYLATION (BY SIMILARITY).
SO SEQUENCE 393 AA: 43696 MW: 9ED285C9A7855D6E CRC64;

Query Match 77.5% Score 55; DB 1; Length 393;
Best Local Similarity 83.3%; Pred. No. 0.079;
Matches 10; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 OPTFSDYKLLP 12
Db 16 QETFSDLKLLP 27

RESULT 5
P53_CRIGR STANDARD; PRT: 393 AA.

ID P53_CRIGR
AC 009185; 064397; P97258; P97788;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Cellular tumor antigen p53 (Tumor suppressor p53).
GN TP53 OR P53.
OS Cricetus griseus (Chinese hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Cricetulus.
NCBI_TaxID=10029;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Embryonic fibroblast;
RA Chaung W., Mi L.J., Boorstein R.J.;
RT Submitted (MAR-1997) to the EMBL/GenBank/DBJ databases.
RL [2]
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Embryonic fibroblast;
RA Shimizu T., Nikaido O., Suzuki F.;
RT Submitted (JUN-1996) to the EMBL/GenBank/DBJ databases.

-1- FUNCTION: ACTS AS A TUMOR SUPPRESSOR IN MANY TUMOR TYPES. INDUCES
CC GROWTH ARREST OR APOPTOSIS DEPENDING ON THE PHYSIOLOGICAL
CC CIRCUMSTANCES OR CELL TYPE, BUT BOTH ACTIVITIES ARE INVOLVED IN
CC TUMOR SUPPRESSION. ACTS IN CELL CYCLE REGULATION, IS A TRANS-
CC ACTIVATOR THAT ACTS TO NEGATIVELY REGULATE CELL DIVISION BY
CC CONTROLLING A SET OF GENES REQUIRED FOR THIS PROCESS. ONE OF THE
CC ACTIVATED GENES IS AN INHIBITOR OF CYCLIN-DEPENDENT KINASES.
CC APOPTOSIS INDUCTION SEEMS TO BE MEDIATED EITHER BY STIMULATION OF
CC BAX AND P53 ANTIGEN EXPRESSION, OR BY REPRESSION OF BCL-2
CC EXPRESSION.
CC -1- SUBUNIT: BINDS DNA AS AN HOMOTETRAMER (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: Nuclear.
CC -1- DISEASE: P53 IS FOUND IN INCREASED AMOUNTS IN A WIDE VARIETY
CC OF TRANSFORMED CELLS. P53 IS FREQUENTLY MUTATED OR INACTIVATED
CC IN MANY TYPES OF CANCER.
CC -1- SIMILARITY: BELONGS TO THE P53 FAMILY.

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EMBL: Y08900; CAA70108.1; -
DR EMBL: Y08901; CAA70109.1; -.